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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,811	09/06/2006	Shigeru Morimoto	2006_1486A	4685
52349 7590 05/06/2009 WENDEROTH, LIND & PONACK L.L.P. 1030 15th Street, N.W. Suite 400 East Washington, DC 20005-1503				
EXAMINER				
GUARINO, RAHEL				
ART UNIT		PAPER NUMBER		
2611				
MAIL DATE		DELIVERY MODE		
05/06/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/591,811

**Applicant(s)**

MORIMOTO ET AL.

**Examiner**

Rahel Guarino

**Art Unit**

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 September 2006.  
2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☒ Claim(s) 11,21,30 and 31 is/are allowed.  
6) ☒ Claim(s) \_\_\_\_\_ is/are rejected.  
7) ☒ Claim(s) 1-10, 12-20 and 22-29 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 06 September 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. This application is in condition for allowance except for the following formal matters:

#### *Drawings*

2. Figures **20-23** should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### *Claim Objections*

3. Claims 2-10,12-20,22-28 are objected to because of the following informalities:

Re claims 2-7,9, **"A polar modulator according to claim 1"** should be **"the polar modulator according to claim 1"**.

Re Claim 8, 10, **"A polar modulator according to claim 7"** should be **"the polar modulator according to claim 7"**.

Re Claims 12-16, 19, **"A polar modulator according to claim 11"** should be **"the polar modulator according to claim 11"**.

Re Claims 17,18,20, **"A polar modulator according to claim 11"** should be **"the polar modulator according to claim 11"**.

Re Claims 22-24, 27, **"A polar modulator according to claim 21"** should be **"the polar modulator according to claim 21"**.

Re Claims 25,26,28, **"A polar modulator according to claim 21"** should be **"the polar modulator according to claim 21"**

Appropriate correction is required.

4. Claims 1 and 29 are objected to because of the following informalities:

Re Claims 1, 29 recites "such that an ACP generated in the power amplification".

It is suggestion to spell out the abbreviation **"ACP"** as **"adjacent channel leakage power"**.

Appropriate correction is required.

***Allowable Subject Matter***

5. Claims 11,21,30,31 are allowed.

6. The following is a statement of reasons for the indication of allowable subject matter:

Referring to claims 1-10, 29, the Hadjichristos et al. reference (US patent 2004/0219891) discloses a polar modulation method and apparatus that generates an envelop-and-phase modulated radio frequency output signal where it uses a delay controller for reducing the (ACPR, adjacent channel power ratio).

The Eidson et al. reference (US patent 6,242,975) discloses a method and apparatus for limiting the non-constant envelope signal when amplifying the signal. The signal is separated in Inphase (I) and quadrature (Q) component where the envelope value is calculated. Each envelope value is compared to at least one threshold value, and check if the value exceeds the threshold value.

The Matsuura et al. reference (US patent 7,251,462) discloses a modulation method and apparatus for obtaining a desired amplitude-modulated input signal using a single transistor without the complication used of plurality transistors.

Neither the Hadjichristos, Eidson and Matsuura references taken alone or in combination, discloses, teach or fairly suggest "a waveform shaping section for, when an amplitude of the second modulated signal is larger than a predetermined regulated value, generating a waveform-shaped modulated signal obtained as a result of shaping a waveform of the second modulated signal, such that the amplitude of a portion of the second modulated signal which exceeds the predetermined regulated value becomes equal to or smaller than the predetermined regulated value"; and used in combination

with all of the other limitations of the claims 1 and 29. The aspects as summarized above are neither anticipated nor obviated by the prior arts of record.

Referring to claims 11-28, 30 and 31, the Domokos et al. reference (US patent 2005/0242880) discloses a power amplifier system in which the power supply voltage is changed according to the threshold detected by the power level.

The Van Rumpt reference (US patent 6,922,550) discloses an apparatus with efficient excitation of a resonant for in which the controllable switch device (MOS transistor) serially arranged with the resonance circuit between the first and second terminal of the voltage supply source. The controllable switch device varied from a maximum resistance value and minimum resistance value.

Neither the Van Rumpt and Domokos references taken alone or in combination, discloses, teach or fairly suggest "the voltage control section supplies a voltage, obtained based on a maximum value of the amplitude modulated voltage which is output from the transistor, to the amplitude modulated voltage supply section as the supply voltage"; and used in combination with all of the other limitations of the claims 11-28, 30 and 31. The aspects as summarized above are neither anticipated nor obviated by the prior arts of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 25 USPQ 74, 453 O.G. 213, (Comm'r Pat. 1935).

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rahel Guarino whose telephone number is (571)270-1198. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Payne David can be reached on 571-272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rahel Guarino/

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Examiner, Art Unit 2611

/David C. Payne/

Supervisory Patent Examiner, Art Unit 2611